CLAIMS

1. A thermocrosslinkable resin dispersion which comprises a continuous phase comprising an aqueous medium and a dispersed phase distributed therein

said dispersed phase comprising particles (I) of a resin component and particles (II) of a crosslinking agent as separately dispersed from the particles (I),

said resin component comprising, as an essential constituent thereof, a modified polyolefin resin (a) or a mixture thereof with a vinyl resin (b),

said resin (a) having a number average molecular weight of at least 1,500 and having at least one functional group species selected from the group consisting of carboxyl, hydroxyl, mercapto, amino, isocyanate and carbodiimide groups,

said resin (b) having a number average molecular weight of 700 to 40,000 and a glass transition temperature of -65 to 40°C, and

said crosslinking agent having at least two groups reactive with said resin (a).

2. The dispersion according to Claim 1, wherein the resin (a) is a modification of a polyolefin resin (a0) having a number average molecular weight of 1,500 to 40,000.

3. The dispersion according to Claim 2, wherein the resin (a0) is a thermally degraded polyolefin.

4. The dispersion according to Claim 1, 2 or 3, wherein the resin (a) is a carboxy-modified polyolefin resin (a1).

5. The dispersion according to Claim 1, 2 or 3, wherein the resin (a) is a higher-order polyolefin resin modification (a2) derived from a carboxy-modified polyolefin resin (a1).

6. The dispersion according to Claim 4 or 5, wherein the resin (a1) is a polyolefin modified with an unsaturated dicarboxylic acid or the anhydride thereof.

7. The dispersion according to Claim 4, 5 or 6, wherein the resin (a1) has an acid value of 5 to 100 mg KOH/g.

8. The dispersion according to Claim 5, wherein the resin (a2) comprises at least one modified polyolefin resin selected from the group consisting of hydroxyl-modified polyolefin resins, mercapto-modified polyolefin resins, amino-modified polyolefin resins, isocyanate-modified polyolefin resins and carbodiimide-modified polyolefin resins.

9. The dispersion according to any one of Claims 4 to 8, wherein the resin (a1) or (a2) comprises at least one polymer moiety with a number average molecular weight of at least 300.

10. The dispersion according to Claim 9, wherein the polymer comprises at least one species selected from the group consisting of polyethers, polyesters, polyamides and polyurethanes.

11. The dispersion according to Claim 9 or 10, wherein said polymer has at least one carboxy-reactive group selected from the group consisting of

hydroxyl, mercapto, amino, isocyanate and carbodiimide groups.

12. The dispersion according to Claim 9, 10 or 11, wherein said polymer has a HLB value of at least 6.

13. The dispersion according to any one of Claims 1 to 12,

wherein the crosslinking agent has at least two reactive groups selected from the group consisting of hydroxyl, amino, epoxy and carbodiimide groups.

14. The dispersion according to any one of Claims 1 to 13,

wherein said resin component is a mixture of the resins (a) and (b).

15. The dispersion according to Claim 14,

wherein said mixture contains 1 to 50% by weight of the resin (b).

16. The dispersion according to Claim 14 or 15,

wherein the resin (b) is a polymer derived from at least one ethylenically unsaturated monomer selected from the group consisting of unsaturated hydrocarbons, alkyl (meth)acrylates, carboxyl group-containing unsaturated monomers and salts thereof.

17. The dispersion according to any one of Claims 1 to 16,

wherein said resin component has a melting point or thermosoftening point of -45 to 120°C.

18. The dispersion according to any one of Claims 1 to 17,

which further comprises 1 to 50% by weight, based on the weight of the resin (a), of an organic solvent.

19. The dispersion according to Claim 18,

wherein said solvent comprises one or more solvents selected from the group consisting of hydrocarbons, alcohols, ethers, ketones, esters and amides.

20. The dispersion according to any one of Claims 1 to 19,

which further comprises at least one additive selected from the group consisting of colorants, dispersants, catalysts, fillers, flattening agents, flame retardants, antioxidants, ultraviolet absorbers and hydrolysis inhibitors.

21. The dispersion according to any one of Claims 1 to 20,

wherein said particles (I) and (II) are contained therein in a weight ratio of 99/1 to 50/50 and at a total concentration of 5 to 60% based on the weight of the dispersion.

22. The dispersion according to any one of Claims 1 to 21,

which comprises, as essential constituents, an aqueous resin component dispersion (A) comprising said resin (a) or a mixture thereof with said resin (b), if necessary together with an organic solvent, and an aqueous dispersion (B) of said crosslinking agent.

23. A primer for polyolefin plastics products

which comprises the dispersion according to any one of Claims 1 to 22.

24. A method of coating

which comprises applying the dispersion according to any one of Claims 1 to 22 to polyolefin plastics products.

25. The method according to Claim 24,

wherein a topcoating composition is or an intermediate coating composition and a topcoating composition are further applied onto the surface of the coat film formed from said dispersion after drying or baking thereof or by the wet-on-wet technique.

26. The method according to Claim 24 or 25,

wherein said dispersion applied onto said products is heated to a temperature of 60 to 180°C for crosslinking of said resin component with said crosslinking agent.

27. A coated polyolefin plastics product

obtained by the method according to Claim 24, 25 or 26.